

REMARKS

This Response is in regard to the Official Action of June 5, 2006 in the above-identified application.

In Paragraph 2 of the Official Action, the Examiner points out that a cited reference in an earlier Information Disclosure Statement was not to the inventor named and was of different technology than the present invention. The proper citation is set forth in the attached Information Disclosure Statement (one of the numbers was off by one digit). The courtesy of the Examiner in calling this to our attention is appreciated.

The present invention relates to a finding by the present inventors in regard to cermets, a previously known material, that improved wear resistance as compared to known cermets can be obtained while retaining toughness and resistance to plastic deformation values on a par with known cermets. This improved combination of properties is realized by optimizing the amount of undissolved Ti(C,N) cores in the cermet and particularly by having an amount of between 26 and 37 vol% of the undissolved cores in a titanium-based carbonitride alloy comprising 9-14 at% Co, 1 to less than 3 at% Nb, 3-8 at% W and C and N having a C/(C +N) ratio of 0.50-0.75.

With the present invention, it is thus possible to optimize all three of the main cutting performance criteria-toughness, abrasive wear resistance and resistance to plastic deformation. Cutting inserts made of the cermet alloy of the present invention offer an improvement in total cutting performance as compared to known cermets. See, for example, the Table in Example 4 herein.

Claims 1 to 5 stand rejected under 35 USC 103(a) as being unpatentable over Weinl '590. This rejection is traversed. It is recognized in the Official Action that the '590 reference is deficient in teaching all of the presently claimed invention as it is noted that it

does not disclose the amount of undissolved Ti(C,N) cores in the cermet nor the C/(C+N) ratio. These deficiencies are allegedly "obvious" because the composition and process of the '590 reference is so similar to that of the present invention, citing *In re Best* and MPEP 2112.01.

However, the compositions are not so alike-note that the '590 reference for example discloses that the W content should be much higher than herein. The reference is silent as to the C/(C+N) nor is there any disclosure of the amount of undissolved Ti(C,N) cores in the material. As disclosed herein, the process to obtain the required amounts of undissolved Ti(C,N) cores uses 50-70% wt% Ti(C,N) powder and suitable sintering temperatures. There is no such disclosure in the '590 reference which exemplary uses considerably less Ti(C,N) powder in the starting materials (see Column 4, lines 8 and 9). Other than general comments in regard to "pressing and sintering" which apply to all such cermets, the process of the '590 reference is inapposite to that used to produce the presently claimed titanium carbonitride alloy.

Thus, the '590 reference does not rise to the level of similarity required by *In re Best*. Both the composition and process are different from those herein and there is no valid presumption of a prima facie case of obviousness.

Withdrawal of the grounds of rejection and early allowance of claims 1 to 5 is thus requested.

Should any questions arise in connection with this application, or should the Examiner believe a telephone conference would be helpful in resolving any remaining issues pertaining to this application, it is respectfully requested that the undersigned be contacted at the number indicated below.

EXCEPT for issue fees payable under 37 C.F.R. § 1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§ 1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account 50-0573. This paragraph is intended to be a CONSTRUCTIVE PETITION FOR EXTENSION OF TIME in accordance with 37 C.F.R. § 1.136(a)(3).

Respectfully Submitted,

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